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ABSTRACT

To improve the responsiveness of educational programs to the needs of low achieving, at risk students, Research for Better Schools (RBS) has developed an assessment procedure. This document is the portion of that procedure that addresses the involvement of students in their learning, or how low achieving students cognitively operate on content. The discussion is set in the context of various teaching styles that may be used to transmit this content to the students. This approach is a departure from what has been practiced and researched in the past, when the focus was on how teachers' beliefs, attitudes and expectations influence their dealings with students. This new approach adds an important student-centered dimension to the analysis of teaching and learning. Research literature related to the following topics is reviewed: (1) the definition, measurement, and predictive value of cognitive ability for student achievement; (2) the differences between low achievers and high achievers in the performance of cognitive tasks; (3) how students respond to success and failure, how they believe success and failure happen, and what they do as reactive behavior; and (4) how cultural differences affect academic achievement. A nine-page list of references is included. (VM)

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Student Involvement in Learning Action Packet

Research, Strategies and Programs for Special Populations

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INTRODUCTION

The Special Populations Project at Research for Better Schools, Inc. (RBS) has developed a school improvement model to improve the responsiveness of educational programs to the needs of low achieving, at-risk students. The model consists of an assessment procedure, to examine the support and services provided to these students, and action packets, to assist with the implementation of improvements in identified areas of need.

This is one in a series of nine action packets. Each action packet addresses a separate factor on the Assessment of School Needs for Special Populations survey. The purpose of an action packet is to review research related to its factor and to present implications for practice. The action packets are to be used to support existing school or district strategies to improve educational programming for at-risk, low achieving students. Examples of ways to implement the action packet include:

- providing the school's existing task force or planning committee with information for planning and establishing school priorities
- acting as a resource document for staff development
- acting as a resource document for developing student programs (e.g., summer school program, alternative educational program, academic advising program)
- supporting academic advisors, teachers, and other school staff in involving parents of the target group in their children's education.

The final version of the action packet will include more specific suggestions concerning how these materials might be used to assist in school improvement efforts. These suggestions will be derived from RBS's documentation of the implementation of the action packets during the pilot of the school improvement model.

Action packets are divided into three sections: (1) review of the problem, (2) teaching implications, and (3) examples of relevant education programs.

REVIEW OF THE PROBLEM

For the past two decades, most classroom research concerning low achieving students has focused on the dynamics of teacher-student verbal interactions and, in particular, on how teachers' beliefs, attitudes or expectations influence their dealings with low achieving students. Much of this research has employed a process-product approach in which relationships are established between measures of teacher behavior (e.g., instructional and classroom management strategies) and student outcomes (e.g., achievement gains, attitude toward school).

While process-product studies have contributed a great deal, we must also consider that low achieving students are classroom participants who affect teachers, just as teachers affect them, and that they are actively processing and responding to teacher input. Thus, a complete account of classroom events must include not only information about teacher behaviors (see other action packets in this series, e.g., Instruction, Classroom Management, Teacher Expectations), but also information about low achieving students' involvement in learning; that is, how low achieving students cognitively operate on content in the process of learning from teaching, and the ways in which the teaching process affects low achieving students' perceptions, attitudes and beliefs about themselves and their ability to learn. This shift in focus from teaching events to learning events has been referred to by Winne (1985) as the cognitive mediational paradigm.

Identifying and describing the major characteristics shared by low achieving students--the target group in the "Assessment of School Needs for Special Population" survey and this series of action packets--is, in itself, a complex task. Early research suggested that low achievers were

chiefly from the lower strata of society and were disproportionately represented by ethnic minority groups. Hence, during the 1960's, labels such as "under privileged," "educationally disadvantaged" and "culturally disadvantaged" were used to describe this population; the focus was on socioeconomic factors (e.g., parents' level of education, family income, availability of reading materials in the home) which contributed to student difficulties in school. However, today, due to racial and ethnic sensitivity, and more importantly, the recognition that alienation transcends socioeconomic status (SES), researchers and educators perceive these youngsters as being "at-risk" of dropping out of school and/or becoming unproductive, underdeveloped and non-competitive individuals (Pellicano, 1987, p. 47). Concomitantly, they put our country at-risk of becoming a place inhabited by citizens who are dependent, uncompetitive and unreactive to market forces.

In recent years, a somewhat different view has caused researchers to go beyond analyzing demographic factors to examining psychological and behavioral characteristics of the poor achiever. In these studies the term "high-risk" is often used to describe "the individual student's attitudes and behaviors in relation to the educational system by focusing on the probability of his or her academic success or failure" (Blum & Spangehl, 1982, p. 5). This is a significant development for, unlike the case with socioeconomic factors, educators can have a direct influence over students' academic success or failure and over their perceptions, attitudes and beliefs about themselves and their schooling. This action packet will focus mainly on these psychological/behavioral variables or student characteristics which research has shown underly low achievement. They include cognitive ability, task performance and attribution of success or

failure. This section concludes with a brief discussion of some key cultural characteristics of low achieving minority students.

Cognitive Ability

Many researchers identify poor cognitive ability as a major predictor of low student achievement and lack of persistence within the educational system (Bachman, O'Malley & Johnston, 1978; Beal & Noel, 1980; Bowles & Gintis, 1976; Ekstrom, Goertz, Pollack & Rock, 1986; Gottfredson, 1980; Wehlage & Rutter, 1986). Traditionally, cognitive ability has been measured by intelligence tests which reflect three basic dimensions: the capability to learn, the ability to think abstractly and adaptability to new situations (Cattell, 1971). The most commonly tested dimension is the ability to think abstractly using mathematical or linguistic symbols.

While intelligence test scores may be relatively accurate in predicting a student's school performance, critics contend that the tests are concerned with only a limited range of talents. Thus, contemporary educational thought has begun to expand the definition of what constitutes intelligence. For example, Sternberg's (1986) theory of intelligence describes a triad of interlocking mental abilities, the sum total of which determines a person's intellectual strengths and weaknesses. Sternberg believes that these components of cognition underlie what we mean by intelligence and are a truer guage of intelligence than the abilities measured by traditional intelligence tests. Stenberg's three components of intelligence are: the ability to learn from context rather than from explicit instruction, mental flexibility or adaptability to novelty, and insight which allows solutions to problems to come to mind all at once.

Like Sternberg, Howard Gardner (1983) has also been in the forefront of the movement to identify various aspects of intelligence, and to develop new

ways of spotting a child's strengths and weaknesses. Gardner's theory of "Multiple Intelligence" defines intelligence as "the ability to solve problems or fashion products that are of consequence in a particular cultural setting" (Walters & Gardner, 1985 p. 3). He suggests that there are seven major intelligences in addition to those skills commonly assessed by standardized IQ tests. This list includes the spatial abilities of the architect; the bodily grace of the superb athlete or dancer; musical gifts; the interpersonal abilities that make the great statesman or diplomat; and the inner attunement that allows someone to lead a life in keeping with his or her true feelings.

While Sternberg, Gardner and others are broadening the range of human abilities which make up intelligence, other researchers are questioning the validity of IQ constancy and advocating cognitive modifiability (Ausubel, 1964; Birch & Bortner, 1970; Feuerstein, 1980; Schwebel, 1968). In 1969, the age-old "nature versus nurture" controversey resurfaced when Jensen and others advanced the view that innate and largely unmodifiable human limitations were reflected in low IQ scores. Although this debate involves a complex of issues, two overriding ones are: (a) are there racial and genetic differences in intelligence? and (b) is the IQ test a valid tool for measuring intelligence? Critics of the IQ tests and of the concept of intelligence as a static entity (Bronfenbrenner, 1975; Gordon, 1975; Kagan, 1975) cite Skeels and Skodak's (1949) landmark study in support of the positive effects of intervention. Questioning the soundness of Jensen's concept of a "heritability coefficient," Bronfenbrenner concludes that even if such a factor for certain traits does exist, its modifiability is not precluded.

The extent to which intelligence is modifiable has obvious implications

for low achieving students. Some educators (e.g., Blum & Spangehl, 1982; Gordon, 1975) promote the need for special goals for those who have not been adequately prepared for schooling. They urge that these goals should be reflected in a diversity and abundancy of educational experiences, such as alternative schooling models which meet a wide variety of educational needs.

Clearly, improvement in cognitive functioning is one such educational need (Ausubel, 1964; Bruner, 1959) and many advocate the view that thinking can be taught (e.g., Costa, 1985). The belief in the teachability of thinking signals a shift in educational psychology to a concern with ways to foster "learning-to-learn" abilities (Glaser, 1976) and it focuses attention on the metacognitive behaviors (Brown, Campione & Day, 1981), thus enabling children to think about their own thinking. Bruner, in an interview with E. Hall (1982), describes this optimistic view of cognitive modifiability as the most promising development in American education during the past decade.

Task Performance

A simple measure of intellectual ability is probably not a sufficient behavioral variable for predicting academic achievement. Crucial to the new theories of intelligence--even multiple intelligence--is the conviction that task performance depends as much on persistence and willingness to work hard as it does on cognitive ability. Furthermore, studies show that low achieving students lack sufficient effort, thoroughness and logical development in school tasks (Blum & Spangehl, 1982). These studies also show that poor achievers have difficulty identifying tasks and information needed to solve problems.

An early study which compares low and high aptitude (as determined by

results of an aptitude test) college students on their ability to solve reasoning problems was conducted by Bloom and Broder (1950). These researchers concluded that each student showed a definite consistency in approaching and solving the various problems. This consistency was of such magnitude that Bloom and Broder regarded it as the student's "habitual problem-solving style of thinking." For the low aptitude students, this habitual style was characterized by one-shot thinking and a willingness to allow gaps of knowledge to exist in effect, an attitude of indifference toward achieving an accurate and complete comprehension of situations and relationships.

Bloom and Broder observed that low aptitude students were mentally careless and superficial in solving problems. They spent little time considering a question and chose answers based on only a few clues or on simply a feeling, an impression or a guess. By contrast, high aptitude students made decidedly active attacks on problems. When a question was initially unclear, they often employed a lengthy sequential analysis in arriving at an answer. They began with what they understood of the problem, drew on other information in their possession for further clarification, and carefully proceeded through a chain of steps that finally brought them to a solution.

A number of other researchers have reported similar differences between high and low ability students at various age levels and across academic areas (Bereiter & Englemann, 1966; Frankenstein, 1979; Sadler, 1979; Whimbey & Lochhead, 1983). Anderson and her colleagues (Anderson, 1981, 1984; Anderson, Brubaker, Alleman-Brooks & Duffy, 1984), for example, observed and then interviewed first graders working on seatwork assignments. Their data indicated that many students, especially low achievers, did not understand the content-related purpose of the assignment or how

to undertake the task. Rather than asking for help, the low achievers were content either to respond randomly or to rely on unrelated response sets (e.g., using alternating or geometrical patterns for circling answers on multiple choice assignments; picking a new word to fill in the blank in a sentence without first reading the sentence). In addition, the low achievers seemed to be more concerned about completing their assignments than understanding the content. As one said to himself when he finished a worksheet, "I don't know what it means, but I did it." (Anderson, Brubaker, Alleman-Brooks & Duffy, 1984, p. 20). In contrast, high achievers completed most of their assignments successfully and showed less concern about finishing on time.

Another strategy for obtaining insight concerning cognitive processing differences between high and low achieving students is the use of a stimulated-recall procedure to analyze teacher-pupil interactions. For example, Peterson, Swing, Braveman and Buss (1982) showed fifth/sixth graders a videotape of a lesson they had experienced and asked them to recall their thought processes at various points in the lesson. Student responses showed that low achieving students were less inclined to attend to the teacher's explanation and were more likely to provide general or imprecise reasons for why they did not understand the lesson. In contrast, high achievers reported using two particular strategies that were modeled or suggested by the teacher: (a) the deliberate return to prior knowledge in order to anchor new material, and (b) the use of advanced organizers. The high achievers also acknowledged that the teacher's overview promoted their understanding.

The particular concern of Winne and Marx (1982) is the degree of congruence between teachers' goals for students' thought processes and the

extent to which these processes are successfully elicited. Teacher and student interviews designed to explore teacher intentions and student understanding revealed serious problems in classroom communication. Focusing on teacher behavior, these researchers found teachers to be least successful in promoting student engagement, establishing task definitions and setting objectives. Furthermore, Brophy (1986) reports that many teachers are so anxious to begin a lesson that they skip over lesson objectives. Only 5 percent of the teachers Brophy observed explicity described the purpose of the assignment being presented and only 1.5 percent included explicit cognitive strategies to be used when doing the assignment.

For low achieving students, the problem of poor classroom communication is complicated by the fact that these students have a difficult time securing relevant information about how academic task systems work. This observation has led Doyle (1982) to conclude that the problems of low achievers should be seen in informational rather than motivational terms. From the teaching perspective, low achieving students need "explicitness, continuity and simplicity to navigate the task systems in the classroom" (p. 532). And, according to the findings of Winne and Marx cited above, teachers are least effective in providing the type of guidance and structure needed by most low achieving students.

Attribution of Success or Failure

The relationship of ability perception to academic achievement has been a topic of concern for many cognitive psychologists who are interested in better understanding the factors influencing a low achieving student's task performance (Bar-Tal, 1978; Covington & Omelich, 1979a, 1979b; Weiner, 1979). Their formulations are guided by attribution theory which proposes

that an individual's interpretation of the causes of success and failure influence future achievement-oriented behavior. One of the most consistent findings in this tradition is that, if individuals believe that their successful completion of a task is due to their own ability, they will be likely to attempt similar endeavors in the future because they expect to do well and feel good about their accomplishments. They will be less likely to do so if they believe achievement is due to other factors, such as luck or ease of assignment. Consequently, ability perception is viewed as mediating achievement behavior.

One of the original attribution theorists is Rotter (1966), who coined the term "locus of control" to refer to the individual's beliefs regarding personal control over the contingency of reinforcement. Briefly, "internal control" is an individual's belief that an event or outcome is contingent on his or her own behavior or on relatively permanent personal characteristics such as ability. The belief that an event is caused by factors beyond the individual's control (e.g., luck, task difficulty, biased teacher) is labeled "external control."

Attribution theorists have refined and elaborated upon Rotter's concept of locus of control. Weiner (1979) claims that effort and ability attributions, both internal and treated equivalently by Rotter, have different behavioral implications because effort is under the control of the individual and ability is not. Also, ability is generally perceived as a relatively stable cause, whereas effort can vary from situation to situation. Thus, Weiner distinguishes between two kinds of internal causes of achievement outcomes, controllable and unstable causes like effort and uncontrollable stable causes like ability. The control and stability dimensions that Weiner added to Rotter's original internal-external dimension

allow much more refined behavioral predictions from beliefs about the cause of reinforcements.

The other major difference between Rotter's and Weiner's analyses of achievement-related cognitions is that Rotter emphasizes generalized beliefs that develop with experience in achievement settings and are assumed to hold regardless of situational factors. Weiner, while admitting that relatively stable individual differences in perceptions of the cause of achievement outcomes may exist, emphasizes situational factors in subject's attributional judgments. He claims that individuals make judgments about causes of achievement outcomes on the basis of information in the current achievement situation. The difficulty of the task, others' performance, and the subject's analysis of his or her own competence at that particular task all bear on this judgment. Past experience in similar achievement contexts is relevant, but it is only one of many factors that are considered. Weiner's view is somewhat more optimistic in its implications for low achieving students. It suggests that the causal attributions of low achieving students can be changed, independent of their previous experiences in achievement contexts, by manipulating current environmental factors.

Belief about the causes of success and failure as mediators of achievement behavior have been studied by Dweck and her colleagues (Diener & Dweck, 1978; Dweck, 1976; Dweck & Bush, 1976; Dweck, Davidson, Nelson & Enna, 1978; Dweck & Gilliard, 1975; Dweck & Goetz, 1978; Dweck & Reppucci, 1973). They found that some students with a history of poor performance in school persist and actively pursue alternative solutions to a task when they encounter failure, while others undergo a marked deterioration in persistence or quality of performance, evidencing what they

refer to as "learned helplessness." Why do students respond differently to the same failure experience? Consistent with Weiner's attributional analysis of achievement behavior, Dweck claims that learned helplessness in achievement situations occurs when students perceive failure to be independent of their behavior or insurmountable. When failure is attributed to lack of ability, it results in seriously impaired performance. In contrast, positive achievement behavior, which is Dweck's "mastery-oriented" attributional style, tends to be associated with attributions of failure to factors which are within the individual's control, especially insufficient effort.

It has also been shown that helpless students are more likely than mastery-oriented students to make their attributions spontaneously (Licht & Dweck, 1984). For example, when helpless students confront difficulty, they focus their attention on their past failure and their inability to overcome their failure. In contrast, when mastery-oriented students confront obstacles, they tend not to contemplate the causes of their difficulties nor to dwell on the fact that they are having difficulty. Instead, mastery-oriented students focus their attention on strategies for solving the problem (Diener & Dweck, 1978).

The results of Dweck's (1976) intervention study provide compelling evidence for the importance of beliefs in achievement related behavior. She selected a sample of low achieving students who exhibited helpless behavior in response to failure and randomly assigned them to one of two treatment groups: those receiving only success experiences, or those receiving attribution retraining. In the attribution retaining group, the experimenter explicity attributed student failure to insufficient effort. Following 25 daily lessons, both groups were retested for the effects of

failure on their performance. While no improvement was shown by the success-only training group, all of the students in the attribution-retraining group showed an increased persistence following failure. Other reseachers (Andrews & Debus, 1978; Chapin & Dyck, 1976) lend support to Dweck's finding that students can be trained to make effort attributions for failure and that such training will result in greater persistence in the face of failure.

Like attribution and learned helplessness, self-efficacy is another heuristic construct used by researchers to identify the learning difficulties of low achievers. Self-efficacy refers to the self-perception of possessing the prerequisite ability for effort to be effective (Bandura, 1977). A student who lacks self-efficacy believes that no amount of effort will bring about a positive outcome. Self-evaluative or metacognitive techniques have been successfully used with low achievers to promote an attitude of self-efficacy and to reveal and reshape attributions (Brainin, 1985). Others suggest that these techniques may benefit high achievers as well since research indicates that high achieving students also tend to attribute task performance difficulties to a lack of ability and to show deteriorating performance when encountering an obstacle (Diener & Dweck, 1978; Licht & Dweck, 1984; Stipek & Hoffman, 1980).

Self-confidence is related to a distinction Nicholls (1979) makes between a task orientation and an ego orientation. When task oriented, the student's attention is focused on the process of completing the task; when ego-oriented, attention is focused on the self and especially on external evaluations of self. This distinction is illustrated in interview data reported by Peterson and Swing (1982). When questioned about her thoughts during a probability lesson, task-oriented Jani responded by describing the

strategies she had used to solve the problem. Ego-oriented Melissa, however, discussed her nervousness and fear of undertaking the assignment. She summarized her thoughts by saying, "Well, I was mostly thinking . . . I was making a fool of myself" (p. 486). Clearly, Melissa's attention was on herself and not on completing the task.

Gender also appears to be related to continued motivation and task persistence. Research has shown that girls tend to have unduly low expectancies (Crandall, 1969; Smey, 1980; Stipek & Hoffman, 1980), to experience challenge avoidance (Licht, Linden, Brown & Sexton, 1984), to focus on ability attributions for failure (Licht & Shapiro, 1982; Nicholls, 1979), and to exhibit debilitation under failure (Licht & Dweck, 1984; Licht, Linden, Brown & Sexton, 1984). In an interesting study, Licht and her associates (1984) compared boys and girls with high grade point averages and found that girls much preferred tasks at which they could succeed, whereas boys preferred tasks at which they knew they would have to work hard to master. From this, these researchers conclude that boys are more likely than girls to prefer academic areas such as mathematics which tend to necessitate continually surmounting difficulties at the beginning of new units.

One final personality correlate commonly examined in studies of low achievers is self-esteem. The positive relationship between level of self-esteem, defined by Rosenberg (1968, p. 339) as "self-assessment of qualities that count," and academic achievement has been well documented (Brookover, Thomas & Paterson, 1964; Caplin, 1969; Kugle & Clements, 1981; McIntire & Drummond, 1977; Purkey, 1970). Although some researchers have found that high school dropouts have lower academic achievement and self-esteem than those who remain in school (Bachman, Green, & Wirtanen, 1971; Cervantes, 1965; Hunt & Woods, 1979), others report that self-esteem

contributes less to academic success and dropping out than does locus of control (Bachman, O'Malley & Johnston, 1978; Ekstrom, Goertz, Pollack & Rock, 1986; Gottfredson, 1980; Peng, Stafford, & Talbert, 1977). In addition self-esteem studies suffer from the lack of a commonly accepted definition, (Shavelson, Huber & Stanton, 1976; Wylie, 1974).

Cultural Differences

Although the focus of this action packet is on low achievers in general, research indicates that there are perceptual, cognitive, and behavioral differences between racial and ethnic groups which contribute to low achievement in minority students. Research on perceptual differences has focused on minority students' ability to visually structure or select and use relevant information embedded in a larger interrelated context (Witkin, Dyk, Paterson, Goodenough & Karp, 1962). After considering some evidence to the contrary, Shade (1982) concludes that a pattern has emerged which suggests that black students (Barclay & Cusumano, 1967; Gilbert II & Gay, 1986; Hale, 1982; Hilliard, 1976; Jones, 1978; Perney, 1976) and Hispanic students (Ramirez & Price-Williams, 1974) demonstrate a field dependent preference (i.e., are unable to distinguish necessary parts in order to solve a problem) while white students demonstrate a field independent preference (i.e., can abstract necessary parts from the totality of the material regardless of distracting elements). When field dependent/independent students are compared in terms of their scholastic achievement, regardless of sex or race/ethnicity, field dependent students are poorer readers (Stuart, 1967; Zamm, 1973), they take longer to master a reading-type task (Peterson & Magaro, 1969) and they perform poorly in the school setting (Cohen, 1969; Coop & Sigel, 1971; Kogan, 1971).

Witkin and Goodenough (1977) investigated the relationship between perceptual style (i.e., field dependent/independent) and personality style. They found that field independent individuals tend to be impersonal or less interested in people, while field dependent individuals demonstrate a preference for interpersonal relationships. Consistent with these findings, others have shown that blacks--who we said tend to be field dependent--are person rather than object oriented, are socially interactive and prefer a cooperative rather than a competitive environment (Boykin, 1979; Gilbert II & Gay, 1985).

In addition to demonstrating a preference for field dependence and interpersonal stimuli, other researchers report that blacks process information differently from whites. For example, Hilliard (1976) found that blacks: prefer intuitive rather than inductive or deductive reasoning; approximate concepts of space, number and time rather than aim for exactness; and rely on verbal as well as nonverbal communication. As a possible explanation for these racial differences, Young (1974) suggests that black children are taught to concentrate on many stimuli at one time rather than learning to concentrate on only one. Boykin (1979) refers to this as "behavioral verve." He found that, when presented with information requiring some type of problem-solving preference, black children did markedly better if the task formats had high variability. From this, Boykin concludes that white students seem to be socialized to tolerate monotony or unvaried presentation of material while black students require a great deal of stimulus variety.

Many educational researchers have compared black and white students in terms of their self-esteem. While studies predating the 1960's generally found blacks to have lower self-esteem than whites (for a review see

Dillard, 1983; Ockerman, 1979), more recent studies show an inverse relationship (i.e., blacks have a self-esteem equal to or higher than whites) (Hoelter, 1983; Jones, 1979; Porter & Washington, 1979; Triandis, 1972; Trowbridge, 1972). DeVos (1984) explains this recent dramatic increase in black self-esteem as a reaction to past caste inferiority, increased militancy, and a seeking out of past African heritage. In contrast, Hoelter (1983) attributes the change to "selective credulity" or the tendency of black students to permit only significant others with favorable appraisals to impact on their self-assessment. Others have also shown that black students tend to disregard negative feedback from white sources because it is not preceived by the black students to be objective (Banks, Stitt, Curtis & McQuater, 1977).

Studies of self-esteem in Hispanics support the conclusion that a lower self-evaluation is found among the moderately acculturated than among the least and most acculturated. For example, Dworkin (1965), working with adults, found that first-generation Mexican-Americans demonstrated a more favorable self-image than did second and third generation Mexican-Americans. Also, Knight, Kagan, Nelson & Gumbiner (1978) found related generational trends in the self-esteem of school age Mexican-Americans.

One widespread notion commonly reported in the literature is that black children have a more external locus of control than white children, and, specially, are more likely to attribute achievement outcomes to luck (e.g., Coleman et al., 1966; Frieze, 1981; Lefcourt, 1966; Murray & Mednick, 1975; Nowicki & Duke, 1974). In a recent study of approximately 400 black, Hispanic and white students in grades four to eight, Willig, Harnisch, Hill and and Maehr (1983) found that luck attributions did not

emerge as a distinguishing factor for blacks when compared to the other two ethnic groups. They also found that blacks were least likely to attribute failure to task difficulty and/or lack of ability whereas Hispanics tended to attribute failure to lack of ability. Interestingly, black and Hispanic students who were in the process of moving up the SES scale or of becoming acculturated to the Anglo-American life style were most influenced by debilitating motivational variables, including a low-self concept of academic ability and high anxiety in relation to school performance.

A number of educators have observed that the values of the Asian culture are a crucial element in the amazing educational success of Asian students. The results of a recent study (Ginsburg & Hanson, 1986), based on a sample of nearly 12,000 disadvantaged sophomore students included in the 1980 High School and Beyond (HSB) survey, show that the relationship between academic success and cultural values also applies to black, Hispanic and white students from low SES families. That is, high achievers among all racial and ethnic populations are more likely than low achievers: to believe they control their own fate, to work hard in school, to think it pays to plan ahead, to have a mother who thinks they should attend college, and to have friends in school who think well of students with good grades. Moreover, using longitudinal data from the 1982 HSB follow-up survey, these researchers also demonstrated that initial student values significantly affect later student outcomes, thus confirming the causal order assumed in the study.

Negative peer pressure may be another factor influencing black and other minority students to perform below their tested ability levels (Snider, 1987). Based on interviews of black students in an unnamed city high school, Fordham and Ogbu (1987) maintain that excelling in an arena

seen as dominated by white values and expectations puts black students in jeopardy of being accused of "acting white." These students view academic success as part of the white value system and hence, they intentionally "put the brakes on" their school work so as to avoid ostracization from their peers and the black community. On the other hand, highly successful black students develop elaborate coping mechanisms which deflect attention away from their academic achievements. These mechanisms include stressing athletic achievement, acting like the "class clown", forming alliances with bullies, and sharing tests and homework answers with less successful students.

Research shows that some Hispanic sub-groups are also of alienated from the traditional school culture. In an ethnographic study of one high school located in a California agricultural/suburban community, Matute-Bianchi (1986) found that approximately half of the Mexican-descent students, (viz., the most alienated Mexican-oriented students who call themselves Chicanos) rejected the behavioral and normative patterns required for scholastic achievement, i.e., participating in class discussions, carrying books from class to class, asking the teacher for help in front of others, expending effort to do well in school (also see Farias, 1973). It is not possible or legitimate for these students to participate in both the dominate school culture and the Chicano culture, thus, they must choose between the two. Matute-Bianchi further explains:

> To cross these cultural boundaries means denying one's identity as a Chicano and is viewed as incompatible with maintaining the integrity of a Chicano identity. Hence, school policies and practices are viewed as forces to be resisted, subverted, undermined, challenged, and opposed. Often the opposition takes the form of mental withdrawal, in which the students find themselves alienated from the academic content of the school curriculum and the effort required to master it (p. 255).

Finally, some researchers suggest that minority students fail to reach their full potential in the traditional American school because the educational environment is not only unresponsive to their needs, but is also in opposition to their learning and interpersonal styles (Gilbert II & Gay, 1985). Proponents of this viewpoint call for a multicultural/multiethnic curriculum (Gay, 1979; Gilbert II & Gay, 1985; Sizemore, 1979) and matching teaching strategies to students' cognitive styles (Boykin, 1979; Gilbert II & Gay, 1985). While there is strong evidence that differences in cognitive style are related to racial/ethnic group membership, relatively little is known about whether adopting alternative teaching styles or implementing multicultural/multiethnic curriculum will enhance the learning and performance of low achievers (Frechtling, 1984, p. 75).

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